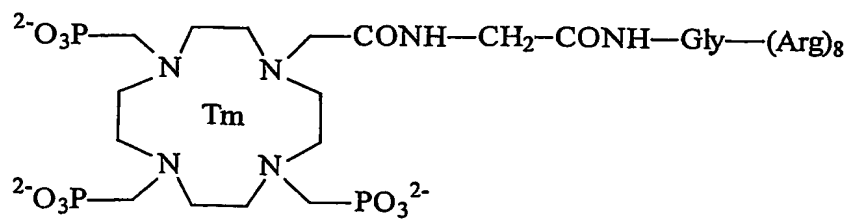


**CLAIMS**

1. Paramagnetic CEST agents comprising a substrate (SH) containing mobile protons bonded to a paramagnetic chelate (SR) containing a metal  
5 selected from iron (II) (high-spin configuration), iron (III), cobalt (II), rhodium (II), copper (II), nickel (II), cerium (III), praseodymium (III), neodymium (III), dysprosium (III), erbium (III), terbium (III), holmium (III), thulium (III), ytterbium (III) and europium (III).
2. Agents as claimed in claim 1, wherein the SH substrates are  
10 diamagnetic and selected from linear and cyclic polyamines, polyaminoacids, proteins, polysaccharides, polyamidoamines, peramidated polyaminoacids, dendrimers containing amide groups, polycyclodextrins, polysaccharides and alginates.
3. Agents as claimed in claim 2, wherein the substrate is selected from  
15 polyarginine, albumin and cyclen.
4. Agents according to any one of claims 1 to 3, wherein the paramagnetic chelate is  $[\text{LnDOTP}]^{4-}$ .
5. Agents according to any one of claims 1 to 4, compartmentalised in biocompatible systems selected from liposomes, nanoparticles,  
20 microemulsions and protein cavities.
6. Agents as claimed in any one of claims 1 to 5, wherein the bond between substrate and the chelate is of the electrostatic type, the apparent thermodynamic constant of SR-substrate association ( $K_A$ ) being greater than 10.
- 25 7. Agents according to any one of claims 1 to 5, wherein SH is bonded covalently to SR.
8. An agent as claimed in claim 7 with formula:



9. A diagnostic composition containing an agent as claimed in claims 1-8, in admixture with a suitable vehicle.